REMARKS

Claims 1-3, 5-15, and 17-19 are pending. In the Office Action, the Examiner objected to claim 5 due to an informality and rejected claims 1-2, 5-6, 12-14 and 17-18 under 35 U.S.C. §102(b) as being anticipated by Kajouke (U.S. Patent No. 6,166,934). In addition, claims 3, 7-8, 10, and 15 were rejected under 35 U.S.C. §103(a) as being unpatentable over Kajouke in view of either Jacobs et al. (U.S. Patent No. 6,396,725) or M. Jacobs (U.S. Patent No. 6,351,396) and claims 9, 11, and 19 were rejected under 35 U.S.C. §103(a) as being unpatentable over Kajouke and M. Jacobs in further in view of either Telefus (U.S. Patent No. 6,304,473) or Lethellier (U.S. Patent Publication 2003/0214274). In response, Applicant has amended claim 1 to further define the invention and amended claim 5 to address the Examiner's objection to an informality. No new matter has been added. Applicant respectfully requests reconsideration of the pending claims in view of the preceding amendments and the following remarks.

Claim Rejections Under 35 U.S.C. §102(b)

Claims 1-2, 5-6, 12-14, and 17-18 were rejected under 35 U.S.C. §102(b) as being anticipated by Kajouke. These rejections are respectfully traversed.

Independent Claims 1 and 12

Independent claim 1, as amended, is directed to a device having a power source, a load and a power converter unit. The power converter unit includes "a processor and a plurality of converter modules, wherein the processor dynamically optimizes the power converter unit to maximize the efficiency of the transfer of energy from the power source to the load <u>by continuously monitoring and balancing one or more varying dynamic parameters.</u>" Similarly, independent claim 12 is directed to method that includes "<u>monitoring and comparing output power</u>

in view of an operating system power level to determine the number of modules to be activated to provide maximum efficiency."

Applicant respectfully submits that the Kajouke reference does not disclose a power converter unit that includes a processor that "dynamically optimizes the power converter unit to maximize the efficiency of the transfer of energy from the power source to the load by continuously monitoring and balancing one or more varying dynamic parameters," as recited in claim 1, or a method in that includes "monitoring and comparing output power in view of an operating system power level to determine the number of modules to be activated to provide maximum efficiency," as recited in claim 12.

Rather, Kajouke discloses a distributed staged power system having a plurality of parallel power modules that are used as a voltage translator between an energy storage device (e.g., battery, etc.) and a load. (See Kajouke, col. 3, lines 1-9). The power modules are controlled according to one of three control methods. The first control method sets the output voltage of each power module according to a desired bus voltage. As the load demand increases and reaches the maximum current handling capability of a first power module, its output voltage is dropped and a second power module supplies the power demand beyond the power handling capability of the first module. This process continues until the last power module is switched on and provides its output power. (See Kajouke, col. 3, line 56 – col. 4, line 32). In sum, this method controls the output voltage of the power modules based solely on load demand and current capacity for each module.

The second control method of Kajouke uses N power modules with the first power module being enabled while the other N-1 modules are off. As the system load demand increases, a smart

controller with current sensing circuitry detects a preset threshold current and switches on the next power module. This sequence continues until the last module is turned on and is based solely on a preset current. (See Kajouke, col. 4, lines 33 –62).

The third control method of Kajouke relies upon a principle that frequency synchronized power modules will force current sharing. With this method, all power modules are enabled at all times and are controlled according to a master/slave concept wherein the smart controller determines how many power modules should be frequency synchronized to the master power module to provide the required load demand. (See Kajouke, col. 4, line 63 – col. 5, line 38).

In sum, each of the control methods disclosed in Kajouke are based on either load demand and current capacity, a preset current, or according to a frequency synchronized master/slave concept, none of which are based upon varying dynamic parameters. Therefore, Kajouke cannot possibly teach or suggest a processor that "dynamically optimizes the power converter unit to maximize the efficiency of the transfer of energy from the power source to the load by continuously monitoring and balancing one or more varying dynamic parameters," as recited by independent claim 1, or a method in that includes "monitoring and comparing output power in view of an operating system power level to determine the number of modules to be activated to provide maximum efficiency," as recited in claim 12.

Therefore, for at least these reasons, independent claims 1 and 12 are patentable over the cited art and in condition for allowance. In addition, claims 2, 5-6, 13-14, and 17-18, which depend from claims 1 and 12, are also patentable over the cited art and in condition for allowance for at least the same reasons.

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Claim Rejections Under 35 U.S.C. §103

Claims 3, 7-8, 10, and 15 were rejected under 35 U.S.C. §103(a) as being unpatentable over Kajouke in view of either Jacobs et al. or M. Jacobs and claims 9, 11, and 19 were rejected under 35 U.S.C. §103(a) as being unpatentable over Kajouke and M. Jacobs in further in view of either Telefus or Lethellier. These rejections are respectfully traversed.

As set forth above, Kajouke does not disclose all of the limitations recited in independent claims 1 and 12. The addition of either Jacobs, M. Jacobs, Telefus or Lethellier does not cure these deficiencies. Therefore, for at least the reasons discussed above, the rejection of claims 3, 7-9, 10-11, 15 and 19, which depend from independent claims 1 and 12, should be withdrawn. Nonetheless, claim 10 recites independently patentable subject matter that is not taught or suggested by any of the cited references. Specifically, claim 10 recites a processor that "monitors temperature in each module and continuously adjusts duty cycle until the temperatures in each module are the same."

As set forth above, Kajouke discloses three different control methods, none of which include monitoring the temperature in each module or continuously adjusting duty cycle until the temperatures in each module are the same. In rejecting claim 10, the Examiner states that the teaching of this limitation is inherently shown in Kajouke because "the controller provides current sharing and thermal balancing among active converter modules." (Office Action, page 7, paragraph 34). However, what Kajouke actually states is that the "second control method provides current sharing and thermal balance between active power modules." *emphasis added.* (See Kajouke, col. 4, line 58 – 60). Recall that the second control method of Kajouke is a control scheme that sequentially switches on power modules according to load demand and a preset threshold current.

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Applicant concedes that this method may provide some level of current sharing between modules and that the modules may be thermally balanced, however, Kajouke does not teach or suggest monitoring temperature in each module and continuously adjusting duty cycle until the temperatures in each module are the same, as recited in claim 10. Therefore, for at least this additional reason, dependent claim 10 is patentable over the cited art and in condition for allowance.

CONCLUSION

Reconsideration and allowance are respectfully requested. In view of the above, each of the presently pending claims in this application is believed to be in condition for allowance. Accordingly, the Examiner is respectfully requested to pass this application to issue.

Applicant believes no fee is due with this response. However, if a fee is due, please charge our Deposit Account No. 18-0013, under Order No. DP-310126 (65899-0714) from which the undersigned is authorized to draw. To the extent necessary, a petition for extension of time under 37 C.F.R. § 1.136 is hereby made, the fee for which should be charged to such deposit account number.

Dated: July 27, 2007   Respectfully submitted,

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